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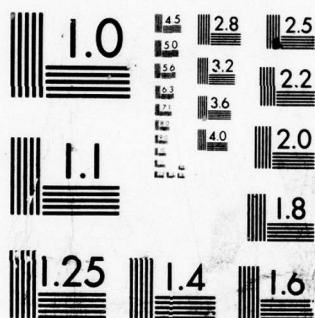
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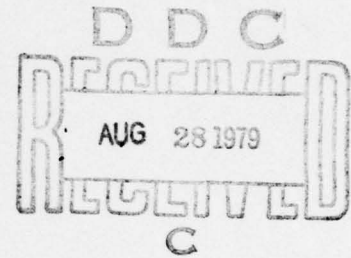
Graduate School of Management
University of Oregon
Eugene, Oregon 97403

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**The Relationship Between Worker Ownership and
Control of Organizations and Work Attitudes and
Behaviors: A Comparative Study**

**Susan R. Rhodes
School of Management
Syracuse University**

**Richard M. Steers
Graduate School of Management
University of Oregon**



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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER Technical Report No. 19	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) The Relationship Between Worker Ownership and Control of Organizations and Work Attitudes and Behaviors: A Comparative Study		5. TYPE OF REPORT & PERIOD COVERED
7. AUTHOR(s) Susan R. Rhodes and Richard M. Steers		6. PERFORMING ORG. REPORT NUMBER
9. PERFORMING ORGANIZATION NAME AND ADDRESS Graduate School of Management University of Oregon Eugene, Oregon 97403		8. CONTRACT OR GRANT NUMBER(s) N00014-76-C-0164
11. CONTROLLING OFFICE NAME AND ADDRESS Organizational Effectiveness Research Office of Naval Research		10. PROGRAM ELEMENT PROJECT, TASK AREA & WORK UNIT NUMBERS NR 150-812
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) 12364p. 147R-19		12. REPORT DATE July 1979
		13. NUMBER OF PAGES 50
		15. SECURITY CLASS. (of this report) Unclassified
16. DISTRIBUTION STATEMENT (of this Report) Distribution of this document is unlimited. Reproduction in whole or in part is permitted for any purpose of the United States Government		15a. DECLASSIFICATION DOWNGRADING SCHEDULE
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Organizational Commitment Performance-Reward Contingency Worker Ownership Pay Equity Grievances Participation in Decision Making Group Norms Accidents Wage Equalization Absenteeism Turnover Tardiness		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Based on a sample of worker-owners in a producer cooperative and employees in a conventional organization, this study empirically tests portions of a theoretical model explaining the relationship between worker ownership and control and work attitudes and behaviors. According to the model, worker-owners in the cooperative are hypothesized to have higher perceptions of participation in decision-making, pay equity, performance-reward contingencies, and group work norms than are employees in the conventional organization. These perceptions, in turn, are ex-		

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The Relationship Between Worker Ownership and Control
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ABSTRACT

Based on a sample of worker-owners in a producer cooperative and employees in a conventional organization, this study empirically tests portions of a theoretical model explaining the relationship between worker ownership and control and work attitudes and behaviors. According to the model, worker-owners in the cooperative are hypothesized to have higher perceptions of participation in decision-making, pay equity, performance-reward contingencies, and group work norms than are employees in the conventional organization. These perceptions, in turn, are expected to lead to an increased commitment to the organization and lower levels of absenteeism, tardiness, accidents, grievances and turnover. Results partially support the model with members of the cooperative being more committed to their organization, while at the same time having higher absenteeism and tardiness levels than employees in the conventional firm. Implications of results are presented, and directions for future research are discussed.

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The Relationship Between Worker Ownership and Control
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There has been a renewed interest in recent years in establishing worker-owned organizations and in providing employees with ownership opportunities in the United States (Berg, 1975; Conte & Tannenbaum, 1978; Stern & Hammer, 1978; Whyte, 1977, 1978). In some instances, state and federal agencies have played an active role in facilitating formation of worker-owned organizations (Berg, 1975; Whyte, 1978). At least some of the attraction for such practices arises out of the purported positive effects of worker-ownership and control on employee attitudes and behaviors. For example, employer interest in Employee Stock Ownership Programs has been attributed to the

hope for higher morale and productivity. The theory: When a worker is given a piece of the action, he will be motivated to work harder, gripe less. Turnover, absenteeism, and grievances all might diminish ("Stocks for Workers," 1976, p. 6).

Similar statements have been made about worker control. For instance, one study of worker cooperatives in the Pacific Northwest plywood industry attributes the effectiveness of these organizations relative to non-cooperatives to the "considerable motivation for productivity . . . released by the self-management opportunity to a degree that apparently can outweigh the inefficiencies of semi-amateur management" (Bernstein, 1977, p. 5). Implied in these statements is the notion that worker-ownership and control of organizations might be a panacea for the rising level of worker discontent in the U.S. recently documented in the literature

(Aronowitz, 1974; U.S. Dept. of Health, Education and Welfare, 1973).

Since worker discontent has been cited as one of the causes of the recent decline in the U.S. productivity rate (U.S. Dept. of Health, Education and Welfare, 1973), ameliorating this problem is important.

Thus far, strategies falling under the general rubric of job redesign have been the primary focus of research and practice concerned with increasing work satisfaction and motivation (e.g., Hackman & Lawler, 1971; Hackman & Oldham, 1976; Hautaluoma & Gavin, 1975; Katzell & Yankelovich, 1975). However, job redesign may not be appropriate for all situations (Fein, 1974; Hulin, 1971). Moreover, worker-ownership and control may offer a complementary approach even when job redesign is viable. Clearly, then, understanding the relationship between worker ownership and control of organizations and work attitudes and behaviors is important to the field of organizational behavior.

In sharp contrast to the large body of research on job redesign, there is a paucity of research on worker-ownership and control, with only three systematic empirical investigations of North American cases appearing in the literature (Bellas, 1972; Conte & Tannenbaum, 1978; Long, 1977, 1978a, 1978b). Bellas (1972) in a study of plywood cooperatives found a significant positive correlation ($r = .66$, $p < .005$) between organizational performance and an objectively derived index of participation. Conte and Tannenbaum (1978) in a study of 25 employee-owned firms found that the percent of equity owned by the workers was a significant predictor of profitability.

Long's (1977, 1978a, 1978b) research in a Canadian employee-owned firm is particularly noteworthy in that it is the only published study proposing a theoretical model and exploring the relationship between employee ownership and a variety of individual attitudes and behaviors. Long

isolated participation and ownership effects on individual attitudes. Specifically, he found that goal integration, worker involvement, and organizational commitment were all significantly greater for stockholders than for nonstockholders (Long, 1978a). Moreover, participation was more important than ownership in explaining integration and involvement while ownership had a greater influence on commitment (Long, 1978b). Unfortunately, however, Long's data did not permit testing his model with regard to individual behavior such as turnover, absenteeism, and grievances. Furthermore, as the worker-owned organization was newly formed, it would appear that generalizations could only be made to worker-owned companies at a relatively early stage of operation. Additionally, it is possible that some of his findings might be attributed to an "initiation" effect.

Thus, while the three studies offer some support for the positive effects of ownership and control within and between employee-owned firms, attitudinal and behavioral differences between employees in a conventional organization and those in a worker-owned organization have not been examined. Moreover, there have been no studies examining the effects of worker-ownership and control of firms on individual behavior.

Addressing the above concerns, the present research compares worker-owners in a producer cooperative, a special type of worker-owned organization, with employees from a unionized conventional company, both in the plywood industry, on a number of organizational perceptions and attitudinal and behavioral dimensions. The producer cooperative was selected for study for several reasons. First, of the three organizational forms of employee-ownership in the U.S. (i.e., employee stock-option program, direct ownership, and cooperative ownership by producers (U.S. Senate, 1978)), the producer cooperative allows both the greatest opportunity for worker

participation and for ownership by the workers themselves. That is, in the producer cooperative, membership on the board of directors and the benefits of share ownership are limited to worker-owners. Thus, the cooperative provides an ideal setting for examining the effects of worker-ownership and control. Second, the particular cooperative in this study, one of sixteen plywood cooperatives in the Pacific Northwest, was organized in the mid 1950's. Hence, the potential influence of an "initiation effect" on attitudes resulting from a recent transition to the worker-owned form is eliminated. In this study, a theoretical model is proposed based on the characteristics which distinguish the producer cooperative from a conventional organization and the model is partially tested.

CHARACTERISTICS WHICH DISTINGUISH THE PRODUCER COOPERATIVE FROM THE CONVENTIONAL ORGANIZATION¹

Four important factors distinguish the producer cooperative from the conventional organization. First, in the cooperative, workers are owners of the company, while, in the conventional firm, workers are hired to work by the owners of the company. Second, unique opportunities for participation in decision-making, not present in the conventional firm, exist in the cooperative. Third, the cooperative operates according to the principle of wage equalization while, in the conventional firm, workers' wage rates vary depending upon the job they perform. Finally, unique to the cooperative is a performance-contingent reward system in which an individual's pay depends on the effectiveness of the entire organization. Each of these differences will be discussed in turn.

Worker Ownership

In the cooperative, the company is owned by the workers themselves, and, for several reasons, nonworking owners represent a small percentage

of all owners. Generally, a condition of share purchase is that the prospective owner is able and willing to work in the cooperative. Moreover, patronage dividends (i.e., end of year distributions) are tied directly to hours worked. As there is no financial benefit from shareownership unless the individual works, the worker-owner on leaving the cooperative will generally seek to find a purchaser for his or her share. The percentage of nonworking owners in the cooperative is generally related to the difficulty in finding purchasers.

The percentage of employees who are owners generally varies from one cooperative to another, with a range between 65% to 100% (Bernstein, 1974). One of the reasons for employing non-owning workers is that worker-owners have been reluctant to devalue their stock by issuing new shares as a plant expands (Bernstein, 1974).

To gain the privilege of ownership, workers have made a financial investment in the company, the amount of which varies depending on the individual company and the value of the share when the worker bought into the company. Generally, shares in the Pacific Northwest plywood cooperatives (where this study took place) were purchased when companies were initially formed for \$1,000 to \$5,000. In 1976 share market selling prices ranged from \$12,000 to over \$60,000.

Workers report four reasons for buying a share in a cooperative, including: (a) having an equity in the organization, (b) gaining the right to work, (c) obtaining wages higher than the industry union scale, and (d) gaining voting rights (Diegel, 1959). In most cooperatives, an owner's equity in the organization has increased substantially over initial investment levels as a result of successful performance. Shareholders are given the right to work over non-owning workers in the face of seasonal or

cyclical layoffs. Additionally, opportunity to work overtime is generally equalized among shareholders.

Participation in Decision-Making

Participation in decision-making may be viewed as the amount of influence an individual or a group of individuals exert in the range of organizational decisions. As such, participation may be seen as existing on a continuum (Hespe & Wall, 1976). At one end of the continuum, total responsibility for decision-making rests in management. At the other extreme, nonmanagerial employees have ultimate influence over decisions. Although this definition may seem simple, in actuality, participation in decision-making is a very complex and multidimensional concept (Bernstein, 1976; Dachler & Wilpert, 1978; Koch & Fox, 1978). The total amount of individual participation potential is to a large extent determined by the following three properties of participation: (a) the form of participation; (b) the level of organization at which one participates; and (c) the issues on which influence is exercised.

The form of participation refers to the manner in which employees exert influence. The participatory system may be formal, having an explicitly recorded system of rules and agreements, or it may be informal, being based on consensus among social units or individuals (Dachler & Wilpert, 1978). Moreover, the form of participation may be categorized as either direct or indirect (representational). Most participatory systems have characteristics of both formal and informal schemes and both direct and indirect schemes.

The level or organization at which one participates refers to the "point in the organizational hierarchy at which decisions are typically reached" (Hespe & Wall, 1976). Technical level decisions are those made

at the lower or supervisory level of the organization. Decisions regarding participation in the immediate work process form the content of technical level participation. Matters relating to the operation of an entire department are included in managerial or mid-level decisions. The content of mid-level decisions focuses upon control and administration issues. Institutional, or top-level, decisions concern organizational policy and strategic planning (Koch & Fox, 1978).

Issues of participation, i.e., the specific content of the decision, are for the most part correlated with levels, although the correlation is not perfect. It is necessary to specify issues, because even though a particular form of participation exists at a certain level, a specific issue may not be appropriate for that form. For example, included in the domain of labor union influence in lower level decisions are issues relating to wages, working conditions, and job security, while job enrichment is customarily not an issue of union concern in the collective bargaining process (Koch & Fox, 1978).

Although organizational structure varies from one cooperative to another, the formal participatory process is quite similar (Bernstein, 1974). A meeting of shareholders is held at least once a year, at which time worker-owners elect a board of directors comprised of worker-owners. In so doing, each worker-owner exercises one vote regardless of the number of shares owned. Officers of the board are either elected by the general membership or by the board itself. The board of directors, in turn, appoints the general manager and also makes most policy decisions. Borrowing money, disposing of and acquiring property, delegating managerial authority to the officers, to the foremen and to the superintendent as well as determining wage rates are among the decisions under the board's discretion.

Thus, all worker-owners have formal indirect participation in all institutional and some managerial level decisions. In addition, worker-owners on the board have formal, direct influence in these decisions.

In some cooperatives, the power of the board is checked by the entire group of shareholders. For example, expenditures over a certain amount and major decisions to invest or expand plant capacity or to sell a valuable asset must be brought before the entire group for a vote (Bernstein, 1974). Generally, shareholders also have the right to call special meetings by petition of at least 10 to 20 percent of the membership. Provisions for removal of directors are also a part of the by-laws. Hence, all worker-owners may have direct influence in certain decisions.

In addition to formalized opportunities for participation, opportunities for informal, direct influence are also present. Worker-owners work side-by-side with members of the board of directors, who still work in the plant after election. Worker-owners also voice their suggestions and complaints freely to the general manager. This gives worker-owners further influence in decisions made at all levels of the organization.

Bernstein (1974) describes the governing process in the cooperative as being based on a circular pattern of authority. That is, the workers hire the manager, set his salary and make all major policy decisions. But the manager is responsible for the operation of the company, thus the workers-owners work under his direction on a day-to-day basis.

In contrast with worker-owner participation in all three levels, in the conventional organization formalized participation is confined to the managerial and technical level. Moreover, in the conventional organization participation in managerial level decisions is for the most part indirect (a part of the collective bargaining process) and only occurs during

contract negotiations. As was previously noted, managerial level participation in the cooperative is both direct and indirect. In the conventional organization, participation in technical level decisions may be formal as in the case of suggestion systems or informal in day-to-day communication with the foreman. Furthermore, in the cooperative there are no legal boundaries on the issues of participation, although there may be normative constraints. In the conventional firm, formalized participation generally is concerned only with issues of pay and working conditions. Therefore, in terms of forms, levels and issues, there appear to be more opportunities for participation in the cooperative than in the conventional organization.

Wage Equalization Principle

A third distinguishing characteristic of the cooperative is adherence to the principle of wage equalization. That is, in the cooperative, worker-owners generally receive the same hourly wage rate regardless of the level of skill required by the job. In plants that adhere strictly to the principle of wage equalization, no exceptions are made. Even the general manager and other members of management (when they are worker-owners, and not outside employees) receive the prevailing wage rate. On the other hand, many plants deviate somewhat from this principle and may, for example, attach wage incentives for performance of certain undesirable jobs. In the present study, foremen in the cooperative received a salary rather than an hourly rate. The wage rate is generally higher than that for non-owning workers in the same plant and about 25 percent higher than the prevailing industry wage rate (Bernstein, 1977). In fact, Berman (1967) observed that wage maximization rather than profit maximization, is a major goal of the cooperative.

In the conventional organization, workers' wage rates generally vary depending upon the job they perform. For plywood companies the range of wages is narrow and typically a larger number of workers' wages lie in lower rather than upper ranges.

Performance-Contingent Reward System

The amount of earnings that a shareholder in the cooperative receives is contingent upon two factors: (a) the person's attendance; and (b) the effectiveness (net earnings) of the entire organization. Moreover, pay is indirectly linked with individual and group performance, in turn, as they affect overall profitability.

Worker-owners receive bi-monthly wages and patronage dividends distributed at the end of the year. The amount of the dividends depends on the net earnings of the firm. Both forms of payment are based on the number of hours an individual works. Moreover, both of these forms of remuneration are sensitive to economic downturns: that is, in the cooperative wages are flexible both upward and downward depending on the profitability of the organization.

In the conventional organization in this study, wages are set in the collective bargaining process once every three years, with yearly increases being built into the wage structure. The contract specifies that wages cannot be re-negotiated during the contract period. Wage differentials occur across jobs, presumably according the complexity and importance of the job. However, selection into jobs is first based on seniority, although the senior person must demonstrate that he or she can perform the work. Therefore, pay is not closely related to either individual or group performance in the conventional organization. Furthermore, given the nature of the union contract, any link between pay and profitability is

extremely weak. The only factor which is tied to pay in the conventional organization is attendance.

THE MODEL

Figure 1 is a theoretical model showing the hypothesized relationship between organizational form and worker perceptions, attitudes, and behaviors.

Insert Figure 1 about Here

The model suggests that shareholders in the cooperative will have higher perceptions of participation in decision-making, pay equity, performance-reward contingencies, and group work norms than will employees in the conventional organization. These perceptions, in turn, will result in an increased commitment to the organization. Consequently, members of the cooperative will be more highly committed to their organization than employees in the conventional organization. Moreover, higher levels of commitment will be associated with lower levels of absenteeism, tardiness, accidents, turnover, and grievances. Specific hypotheses relating to the model are presented in turn along with theoretical and/or empirical support.

Organizational Perceptions

H₁: Perceived participation in decision-making is greater for worker-owners in cooperatives than for employees in conventional firms.

It has been noted that with regard to form, level and issue, there appear to be more opportunities for participation in the cooperative than in the conventional organization. Assuming that perceived participation is related to actual participation (Lowin, 1968), worker-owners, then, would perceive themselves to have high participation relative to employees in the

conventional firm. Moreover, we would expect perceived participation in decision-making in the cooperative to be greater at all levels and over a variety of issues.

H₂: Perceived pay equity is greater for worker-owners in the cooperative than for employees in conventional organizations.

The concept of pay equity is rooted in the equity theory of motivation and involves a social comparison process (Adams, 1965). An important influence on perceptions of pay equity is the amount of pay received (Lawler & Porter, 1963; Porter and Lawler, 1968), and it is this factor which it is expected would affect differentially perceptions of pay equity in the cooperative vis-a-vis the conventional organization. In view of the previously mentioned differences in reward systems, it would be expected that perceptions of pay equity would be greater in the cooperative than in the conventional organization.

H₃: Worker-owners in a cooperative perceive that the reward system is contingent upon performance to a greater extent than do workers in a conventional organization.

Of the six determinants of perceptions of performance-reward contingencies identified by Lawler (1973), the most salient with regard to the expected differences in perceptions of members in the two types of organizations are (a) the objective situation, (b) a person's past experiences in similar situations, and (c) a belief in internal versus external control. The objective situation has been discussed previously. In the cooperative, the organization's profitability is affected by both organizational performance and the external economic conditions. If the economic situation has negatively predominated over productivity in the past, this could

clearly affect one's perception of performance-reward contingencies. For the most part, the past economic situation for the plywood industry, as well as the organizations in this study, has not negatively affected profitability. Finally, it is tentatively suggested that the belief in internal control may be held to a greater extent in the cooperative than in the conventional organization as an internal orientation may be facilitated by the opportunities for participation in decision-making. Taken together, these factors suggest that perceptions of performance-reward contingencies would be greater in the cooperative than in the conventional organization.

H₄: Group norms favoring productivity are present in the cooperative to a greater extent than in the conventional organization.

In the cooperative, the worker-owner's financial investment in the business, the organizational goal of wage maximization and the reward system based on group effort and overall effectiveness all contribute to a convergence of economic interests of management and workers. This convergence of interests in turn is critical in the development of group norms favoring productivity (Lupton, 1963).

Other factors which might influence group norms favoring productivity include: (a) a good communication system such that workers have knowledge of economic situations, (b) a situation of economic instability or uncertainty, and (c) weak unions (Lupton, 1963). With the exception of economic instability, these factors are present in the cooperative organization to a greater degree than in the conventional organization. The formal and informal opportunities for participation along with a regular posting of minutes of monthly board meetings keep worker-owners informed of the economic conditions, which are considerably unstable and uncertain. Moreover, unions play an extremely minor, if any, role in the plywood cooperatives.

Anecdotal evidence supports the existence of group norms favoring productivity, as exemplified by comments of worker-owners:

"Everyone digs right in--and wants the others to do the same. If they see anybody trying to get a free ride, they get on his back right quick."

"Group pressure here is more powerful than any foreman could be."

"If a guy held back, he didn't feel right. Actually, he was stealing from the others" (Bernstein, 1976, p. 19).

Organizational Commitment

Organizational commitment refers to the nature of an individual's relationship to an organization. In this study, commitment is conceptualized as an attitude in accordance with Mowday, Steers, and Porter (1979). That is, a highly committed member will demonstrate (a) a strong desire to remain a part of the organization, (b) a willingness to exert high levels of effort on behalf of the organization, and (c) a definite belief in the values and goals of the organization.

The conceptualization of commitment as behavior as opposed to attitude gives insight into the process through which people become committed (Salancik, 1977; Staw, 1977). According to Salancik (1977, p. 4), "(t)he degree of commitment derives from the extent to which a person's behaviors are binding." The characteristics of behavioral acts which make them binding can best be understood through the following example. The act of joining a cooperative is more committing than joining a conventional organization in a number of ways. First, share purchase makes it difficult to deny that the act occurred. Second, the act is not so easily reversed as leaving the cooperative entails finding a purchaser for one's share. Third, the act is more public in that the board of directors approve or deny a share transfer. Finally, in that the individual makes an offer to purchase a share and backs up the offer with

a down payment, greater personal responsibility would accompany joining a cooperative than joining a conventional organization. Salancik identifies three factors specific to work organizations which will increase a person's behavioral commitment. These are: (1) constraints on an individual's ability to leave the organization; (2) the extent to which the individual him- or herself has made a committing choice; and (3) characteristics associated with the job situation which increase the person's felt responsibility. In that "(t)he beliefs, attitudes and values of people are generally consistent with their behavior" (Salancik, 1977, p. 21), behavioral commitment then results in attitudinal commitment.

H₅: Participation in decision-making, pay equity, performance-reward contingencies, and group norms favoring productivity are all positively related to organizational commitment.

Using Salancik's framework, participation in decision-making would increase commitment by increasing one's felt responsibility and by influencing the extent to which an individual makes committed choices. Performance-reward contingencies and group work norms enhance commitment in that they reflect high degrees of social integration in the cooperative which are likely to be associated with salient demands from others. Hence, felt responsibility is increased. Finally, the existence of pay equity is committing in that it places constraints on an individual's ability to leave the organization.

Lee (1971) found a positive relationship between organizational identification and performance-reward relations. The relationship between group norms and commitment has not been empirically verified. However, the impact of group norms regarding production standards on individual attitudes and behavior--particularly performance--is well documented (Collins, Dalton, &

Roy, 1946; Lupton, 1963; Roy, 1954). Moreover, a somewhat related measure--group attitudes toward the organization--has been found to be related to commitment (Buchanan, 1974; Patchen, 1970; Steers, 1977a).

The relationship between participation and commitment has been supported in a number of studies (Alutto & Acito, 1974; Morris, 1976; Patchen, 1965; Ruh, Johnson & Scontrino, 1973), while in others there has been no support (Alutto & Belasco, 1972; Hrebiniak, 1974; Long, 1977). As might be expected, all studies incorporating notions of goal acceptance in the conceptualization of commitment supported the relationship. Accordingly, Long (1977) in his study of employee-owners found no relationship between participation and commitment, measured as intent to remain. However, his measures of integration and involvement, which were quite similar to the identification notion of commitment, were found to be related to participation.

H₆: Organizational commitment is greater among cooperative owners than among workers in a conventional organization, other things being equal.

In view of the hypothesized relationship between the four organizational perceptions and commitment, it is expected that members of the cooperative are more highly committed to their organization than employees in the conventional organization. Although there have been no studies comparing commitment levels across the two organizational forms, the ownership effect on levels of commitment has been supported in two empirical studies (Long, 1978a; Mansell, 1976).

Behavioral Outcomes

Theoretically, a number of behavioral outcomes should result from an individual's commitment to the organization. First, we would predict that

an individual who is committed to the goals and values of the organization would be more likely to actively participate in organizational activities (March & Simon, 1958; Steers, 1977b). Several behavioral outcomes are associated with high levels of participation. A highly committed employee would attend work regularly and would have lower levels of voluntary absenteeism than less committed employees. Furthermore, tardiness levels would be less for a highly committed employee. Finally, a highly committed employee would be less likely to incur work-related injuries. Theoretically, this suggested relationship is congruent with the treatment of accident behavior as a means of withdrawing participation, perhaps unconsciously, from the work situation and as a reflection of the quality of the relationship between the person and the employer (Hill & Trist, 1953, 1955; Kerr, 1957).

Inherent in the definition of commitment is intent to remain with the organization. Theoretically, we would expect highly committed employees to be less likely to leave the organization.

At least three behavioral outcomes might result from a belief in the goals of the organization and high levels of identification. First, job involvement might be greater as it is through their jobs that individuals contribute to organizational goal attainment (Steers, 1977b). Second, a person who identifies with the organization would not be as likely to have grievances (Patchen, 1970). Third, highly committed employees would be less likely to engage in behavior necessitating disciplinary action.

Finally, a person who is willing to exert high levels of effort for the organization would be highly motivated. Depending on other factors, a possible result might be superior job performance (Steers, 1977b).

The present study focuses on the relationship between commitment and three of these behaviors:

H₇: Organizational commitment is negatively related to absenteeism, tardiness, and accidents.

The relationship between organizational commitment and tardiness and accidents has not previously been studied. However, Steers (1977a) found a significant relationship between commitment and attendance in a sample of scientists and engineers.

In view of the hypothesis of greater commitment levels and considering the hypothesized relationship between commitment and work behaviors, some hypotheses are suggested concerning levels of work behaviors in the cooperative vis-a-vis the conventional organization.

H₈: The mean responses of employees in a conventional firm will be greater than those of worker-owners in a cooperative for the following measures: (1) absenteeism; (2) tardiness; and (3) accidents.

H₉: Turnover rates and grievance rates will be lower in the cooperative than in the conventional organization.

Hahn (1975) reported that labor turnover in one cooperative mill was lower as compared to that for a group of conventional mills. Long (1978) found a 30 percent decline in turnover since employee ownership. Moreover, no grievances had been filed since conversion (Long, 1978).

The purpose of this study was to partially test the model by testing these hypotheses.

METHOD

Research Setting

The cooperative and conventional organizations in this study were located in the Pacific Northwest and manufactured softwood plywood. The

cooperative was selected first, and the conventional firm was selected to match the cooperative with regard to total employment, plant capacity, and size of community in which the plant was located. Both facilities were located in small cities, and their capacities were somewhat smaller than the average mill in the Pacific Northwest. Production employment at both plants numbered less than 200. The similarities between the two plants went beyond those intentionally controlled for. Particularly noteworthy was the similarity of the physical layout and technology of the two mills, resulting in minimal differences in job design engineering.

There were some important differences between the two plants. The conventional plant was unionized, while the cooperative was not. Moreover, there was greater task sharing in the cooperative. All worker-owners were able to perform a number of jobs and, although assigned to a specific job, they would fill in on other jobs when needed. In the conventional plant, only newly hired workers did a number of jobs, serving as "extras" who filled in for absent employees. Furthermore, another interesting variation between the two sites was in the number of supervisory personnel on each shift. In the cooperative, there was only one foreman per shift, while the number of foremen ranged from one on the night shift to four on the day shift at the conventional site. (For a more thorough description of the sites, see Rhodes, 1978.)

Subjects

In the cooperative, only worker-owners, primarily production workers, were included in the sample. Seventy-one percent of the shareholders responded to the questionnaire. Of the 178 production employees at the conventional site, usable questionnaires were completed by 76 respondents, a response rate of 43%.

As the cooperative sample had only male shareholders, only male employees were included in the conventional sample. In general, the personal characteristics of the two samples were very similar with the average age of the cooperative subjects being 43 and that of the conventional subjects being 42. Additionally, there were no significant differences between the subjects at the two sites in terms of racial identification, marital status (the average respondent being married), educational level, and father's occupation. With regard to educational backgrounds, both samples were fairly evenly split between those without a high school degree, those with a high school degree, and those with more than 12 years of school. The only major differences between the two samples were with regard to tenure and rural-urban background. The conventional sample subjects had a higher mean tenure and were more likely to have grown up in a rural area than were cooperative members.

Research Measures

Perceived Participation in Decision-Making. This variable was measured by a 15-item Likert scale designed to tap the perceived extent of individual influence over immediate work process (supervisory), managerial, and institutional level decisions. Questions were adapted from several sources, including Lawler, Seashore, and Cammann (1975), Alutto and Belasco (1972), Hrebiniak (1974), and Lischeron and Wall (1975). For each item, subjects were asked to indicate how much they actually had in that decision with a response range of 1 (no say at all) to 5 (a very great deal of say). The scale values were derived by computing the average response for each respondent for the 15 items. Coefficient alphas for this scale were .91 for the cooperative sample and .89 for the conventional sample (Cronbach, 1951).

Pay Equity. This 6-item, 5-point Likert scale, adapted from Caplan et al. (1975), was designed to measure the conditions of underreward, reward equity, and overreward. The mean item response for each respondent was calculated to obtain the pay equity score. Coefficient alphas ranged from .61 for the cooperative sample to .79 for the conventional group.

Performance-Reward Contingencies. A 3-item, 7-point Likert scale, adapted from Lawler et al. (1975), was used to measure the degree to which earnings were tied to individual, group, and organizational performance. A score for performance-reward contingencies was derived for each subject by averaging across the three items. The reliability coefficients were .66 and .79 for the cooperative and conventional samples, respectively.

Group Norms. A 2-item, 7-point Likert scale from Lawler et al. (1975), was used to measure the extent to which one received better treatment or respect from co-workers as a result of working hard. Coefficient alphas on this scale were .86 and .91, for the cooperative and conventional samples, respectively.

Organizational Commitment. Organizational commitment was measured by a 15-item Likert-type questionnaire. (See Mowday, Steers & Porter, 1979, for a complete description of the scale properties.) Subjects were asked to indicate extent of agreement on a seven-point scale ranging from "strongly agree" to "strongly disagree." Six reverse-scored items were included in the scale. A score for overall commitment to the organization was derived for each subject by averaging across the fifteen items. The reliability coefficients were .81 and .89, for the cooperative and conventional samples, respectively.

Absenteeism. Absenteeism data for each respondent was gathered from company records for the 12-month period immediately preceding the month of questionnaire administration at both sites. A frequency measure of absenteeism, defined as the number of separate absence occasions, was utilized.

Problems with data collection arose due to differing absence policies between the two sites. In the conventional organization, employees were required to schedule paid vacations in blocks of at least one week in duration, and vacation absences were not recorded on the absence record. On the other hand, at the cooperative site all stockholders received three-weeks pay each year in May as compensation for paid vacation. Shareholders could take vacations in blocks or could take occasional days absence as vacation. The timekeeper indicated time off as vacation when she was informed. As a result, in some cases, it was difficult to distinguish vacation absence from other absences.

Tardiness. Tardiness was measured as the total number of incidents for each respondent over the nine-month period immediately preceding the month of survey administration. Tardiness data for the conventional site was taken from records kept by the shift foreman, while at the cooperative site tardiness data was taken from payroll time cards.

Accidents. Accident data were obtained from reports kept by the companies. For each employee or worker-owner in the two samples, accident data were recorded as the total number of reported work-related injuries, including both time lost and non-time lost, over the one-year period immediately preceding the survey administration.

Turnover. Turnover data reflect voluntary quits only. This information was collected for the cooperative and conventional samples for a one-year period, including nine months prior to survey administration and three months after. These data were collected at the organizational level only.

Grievances. Grievance data were collected from personnel records for the one-year period immediately prior to survey administration.

Demographic Variables. Demographic variables collected for purposes of control included: (a) racial identification, (b) marital status, (c) educational level, (d) tenure with organization, (e) age, (f) job level, (g) rural-urban, and (h) father's primary occupation. Marital status was coded (1) married and (0) single. Job level categorized workers as either supervisory (1) or non-supervisory (0). Supervisors included all foremen and the plant superintendent. Rural-urban was a measure of the size of the community in which the individual spent the largest portion of his life up to the age of 16, with a response of (1) indicating a farm or ranch and (5), a large city with more than 100,000 people. Tenure reflected the number of years the individual had been with the organization, while age also was recorded in years. Educational level included seven categories ranging from (1) some grade school to (8) completed graduate school. Father's primary occupation was classified according to seven occupational groupings, including professional, technical and managerial; salesworkers and clericals; craftpersons; operatives and transport operatives and laborers; farmworkers; service workers; and plywood or mill worker.

RESULTS

Intercorrelations among study variables for each sample are presented in Table 1. In general, intercorrelations among these variables were moderate, with median r 's of .17 in the cooperative sample and .11 in the conventional sample. It is felt that relatively moderate intercorrelations are indicative of acceptable levels of discriminant validity of the measures used in the study.

Insert Table 1

Results concerning the distinguishing characteristics of the cooperative are presented in Table 2. Multivariate analysis of variance indicates

Insert Table 2

that the four variables--participation in decision-making, pay equity, performance-reward contingencies, and group norms--when considered simultaneously, distinguish between the two organizational forms, accounting for 33% of the variance ($p < .001$). This technique takes into consideration correlations among the variables as a set, and consequently, is appropriate to use in the case of multiple dependent variables (Cooley & Lohnes, 1971; Kerlinger & Pedhazur, 1973).

Mean results on each of the four variables are also presented for each sample in Table 2. Since responses on these variables are taken from the same subjects, the responses are not independent. Moreover, there is a tendency for mean differences for each sample to be significant merely by chance as more variables are included. In view of these considerations, the Roy-Bose (1953) multiple comparisons hypothesis testing procedure is used to test the significance of differences between means for the two groups.

This procedure utilizes the Hotelling T^2 statistic which controls the Type I error probability. Results indicate that the means for participation in decision-making, pay equity, and performance-reward contingencies are significantly ($p < .05$, $p < .05$, $p < .001$, respectively) greater in the cooperative than in the conventional sample. However, the difference in means for group norms, although slightly higher in the cooperative than in the conventional firm, was not statistically significant. Therefore, three out of four predictions are supported with regard to the characteristics which distinguish the cooperative from the conventional organization.

To examine the relationship between organizational commitment and its hypothesized antecedents, multiple regression was performed for each sample with organizational commitment as the dependent variable. Table 3 shows the results of the regression. In addition to the hypothesized antecedents, marital status and rural-urban were included in the analysis because of their significant relationship with organizational commitment.

Insert Table 3 here

Regression results indicate that both group norms and participation in decision-making were significantly related to commitment in the cooperative and conventional samples. Furthermore, pay equity was significantly related to commitment in the cooperative, but not in the conventional sample. Finally, performance-reward contingencies were not significant in either regression.

The standardized beta weights indicate that pay equity is most important while participation and group norms rank second and third, respectively, in terms of their contribution to organizational commitment in the cooperative sample. Furthermore, the beta weights for these three variables are

greater than those for the two demographic variables, neither of which are significant in the cooperative sample.

On the other hand, in the conventional sample, the influence of the two significant organizational variables and the demographic variables are more nearly equivalent in explaining commitment. Both demographic variables are significant and group norms ranks first and participation in decision-making ranks second among the organizational variables in explaining commitment.

Also shown in Table 3 is that when the organizational variables were entered into the model as a group, after controlling for marital status and rural-urban, they made a unique contribution to the explanation of commitment in both samples. The increase in R^2 for the cooperative as a result of stepping in the study variables is more than two times that for the conventional sample. Thus, the four antecedent variables are more salient in explaining an individual's commitment to the cooperative organization than they are in explaining commitment to the conventional organization.

The full models, including the four study variables and the two control variables, explain 51% ($p < .001$) and 33% ($p < .001$) of the variance in commitment, in the cooperative and conventional samples, respectively. Therefore, the model performs slightly better for the cooperative than for the conventional sample. However, this is not surprising in view of the fact that the particular organizational variables included in this study were selected based on their relationship to the cooperative organizational form.

To conclude the analysis, double cross-validation was performed (Kerlinger & Pedhazur, 1973). In this technique, the regression equation

obtained in one sample is applied to the control and study variables of the other sample, yielding a predicted value for commitment for each subject. Pearson correlations are then calculated between the predicted value and the actual value of commitment. The obtained Pearson r is analogous to a multiple correlation R , and is an indication of the shrinkage. The results of the double cross-validation (Table 3) indicate that correlations between the predicted values and reported commitment in each sample were significant ($R = .43$ and $.58$, both $p < .001$ in the cooperative and conventional samples, respectively). However, the shrinkage was greater when the regression coefficients developed for the cooperative sample were applied to the conventional sample data.

Finally, attention was focused on organizational commitment and its behavioral outcomes for both samples (see Table 4). A significant negative

Insert Table 4 about here

correlation between organizational commitment and an outcome variable occurred only in the case of absenteeism in the cooperative sample. However, as a number of demographic variables were related to both absenteeism and commitment, the possibility existed that the relationship between the two variables might be spurious. This was indeed confirmed by analysis of variance results, using a modified classic experimental approach (see Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975). Organizational commitment, after controlling for the effects of marital status, job level, and rural-urban, accounted for an insignificant proportion of the variation in absenteeism ($F = .25$, $p = n.s.$).

Table 5 shows the results of comparing the relative levels of organizational

Insert Table 5 about here

commitment, absenteeism, tardiness and accidents in the two samples. The only variable showing significant results in the hypothesized direction was organizational commitment. Moreover, the relationship was upheld even after controlling for marital status, job level, and rural-urban ($F = 10.19$, $p < .01$). Contrary to study hypotheses, both absenteeism and tardiness were significantly greater in the cooperative than in the conventional firm and there were no differences in accidents between the two samples.²

The voluntary turnover rate for production employees at the conventional site was 14.6% while at the cooperative site the turnover rate for worker-owners was 1% for the same time period. An annual quit rate of 19.8% for the plywood and veneer industry in Oregon was reported for the same time period (U.S. Bureau of Labor Statistics, 1978). No grievances were filed during the year immediately preceding the survey administration at the cooperative site, whereas five grievances were filed during the same time period at the conventional site. These findings support the hypothesis regarding turnover and grievances in the two organizations.

DISCUSSION

With the exception of group work norms, hypotheses concerning the differences between organizational perceptions of workers in cooperative and conventional firms were generally supported by the results. In that they appear to be reflections of the actual situation, these results are not in and of themselves astonishing. However, the results with regard to pay equity and participation in decision-making are important in view of their relationship to organizational commitment. That is, they provide support for the notion that higher commitment levels in the cooperative vis-a-vis the conventional organization are, in fact, related to the unique characteristics of the cooperative form, and not to some extraneous factors.

An important question which this study raises is: Are members of cooperatives, in general, more highly committed to their organization than members of conventional organizations? It would seem that replication of results to a large extent depends on the occurrence of organizational perceptions similar to those found in the present study. That is, commitment levels will be determined in large part by the extent to which cooperatives in general are characterized by high levels of participation, favorable group work norms, and high perceptions of pay equity.

Since pay equity was the most important variable in explaining commitment in the cooperative sample, yet unimportant in the conventional firm, it seems especially important to understand its role in the commitment process. Pay equity, to a large extent, may be measuring the degree to which the worker-owner's initial expectations regarding compensation are realized (Grusky, 1966). The economic motive has been well documented as the prime consideration for joining the cooperative. As Berman (1967) notes:

In the worker-owned companies the cooperative method of organization has been seen in its economic aspects primarily as a means of obtaining high wages. Purchasers of stock . . . tend to regard their investment as a ticket to higher wage income than they would get in ordinary employment (p. 181).

Pay equity, thus, would be the most salient inducement offered the individual in joining the cooperative. However, workers joining the conventional organization might not have the same expectations regarding pay equity; consequently, it would not be salient in explaining commitment in the latter case.

Since perceptions of pay equity are largely influenced by the actual situation (Lawler & Porter, 1963), it might be fair to say that as long as a cooperative is effective in terms of profitability, commitment levels would

be greater than in an equivalent conventional organization. Unfortunately, implied in this statement are serious consequences for the cooperative in the event of an economic downturn. Since pay is sensitive to economic conditions, it would seem that given the relation between pay equity and commitment, commitment would also be more directly affected by the economic situation in the cooperative than in the conventional organization. Indeed, when faced with wages lower than industry rates, worker-owners in some cases have chosen to work for conventional organizations to make higher wages (Berman, 1967).

The lack of significant results with regard to the relationship between commitment and the hypothesized behavioral outcomes suggest that the proposed model may be too simplistic. Indeed, as other studies have recognized, the relationship between attitudes and work behaviors may not be a direct one, and other factors may be as salient as attitudes in explaining behavior (Greene, 1972; Herman, 1973; Schwab & Cummings, 1970; Steers & Rhodes, 1978).

The higher levels of absenteeism and tardiness at the cooperative than at the conventional site appear to be more related to variations in absence control policies than to attitudinal differences (see Baum, 1978). Specifically, the conventional organization had a control system, including warnings and possible dismissal, to curb absenteeism, while there was no control system in the cooperative. Thus, there were clear sanctions for absenteeism at the conventional site. Moreover, the differences in control policies are perhaps reflective of differing organizational norms regarding absence behavior. Consequently, disapproval from supervisors and co-workers perhaps accompanied absenteeism at the conventional site. In the cooperative, it is quite possible that absenteeism

and tardiness were considered to be rewards or prerogatives of ownership such that cooperative members did not risk strong disapproval for taking a day off in the middle of the week or coming in an hour or two late. Therefore, negative valence was attached to absenteeism at the conventional but not the cooperative site, hence seeming to explain differences in absenteeism rates.

The lower turnover rate in the cooperative is consistent with Long (1978a), and it is tentatively suggested that low turnover is an outcome of worker-ownership. In a sense, the set of procedures around share-ownership in the cooperative serves, perhaps unintentionally, as a "turnover control policy." For a worker-owner to own a share in the cooperative without working is somewhat impractical, as patronage dividends only accrue to owners who are actually working. Furthermore, quitting one's job in the cooperative is somewhat more difficult than in a conventional organization since it is up to the worker-owner to find a purchaser for his or her share.

A questionable assumption underlying the model (and most research in organizational behavior, for that matter) is that high turnover, absenteeisms, and tardiness are detrimental to organizational effectiveness (Staw & Oldham, 1978; Steers, 1977b). In the present study, it is not clear that the higher absenteeism in the cooperative has detrimental consequences for organizational performance nor is it clear that the low turnover has positive consequences for the organization. In future research it would be well to examine these variables simultaneously with other dependent variables such as individual performance. Particularly if absenteeism and turnover are considered to be effectiveness criteria, an attempt should be made to assess the impact of these variables on the individual and the organization.

In view of the methodology of the present study, it is impossible to suggest that the direct cause-effect relationships in the model have been proven. Moreover, generalizability of results is problematic in view of the small number of organizations examined. Therefore, reiterating Long's (1978a; 1978b) caveat, further research is needed, including replications of the present study as well as longitudinal studies. Questions which need to be addressed include: Are the factors which explain commitment in this study also relevant in other worker-owned organizations? Does the apparent relationship between worker-ownership and commitment hold for only successful cooperatives? What other factors, if any, unique to the cooperative form explain commitment? Are higher levels of absenteeism and tardiness and lower turnover and grievances characteristic of the cooperative form? Is there a better model which might explain the effects of worker ownership and control?

In addition to further testing of the variables in this study, it would be well to examine other potentially important variables. For example, there were some indications that communication flow was greater in the cooperative than in the conventional organization. Also, a key behavioral outcome not examined in this study is individual performance. To conclude, although the present study makes a contribution to our understanding of the effects of worker-ownership and control, in many ways more questions are raised than answered. It will be the task of future research to provide more definitive answers with regard to this important area.

FOOTNOTES

¹Sources for this section include Bellas (1972); Berman, (1967); Bernstein (1974, 1976, 1977) as well as interviews with managers and employees in both conventional and cooperative plywood firms, the labor union contract for the conventional firm, and articles of incorporation and by-laws for the cooperative.

²It is recognized that the distributions of absenteeism, tardiness and accidents are nonnormal and that the variances of absenteeism and tardiness are non homogeneous. However, with large and roughly equal sample sizes, the t-test is quite robust (Boneau, 1960).

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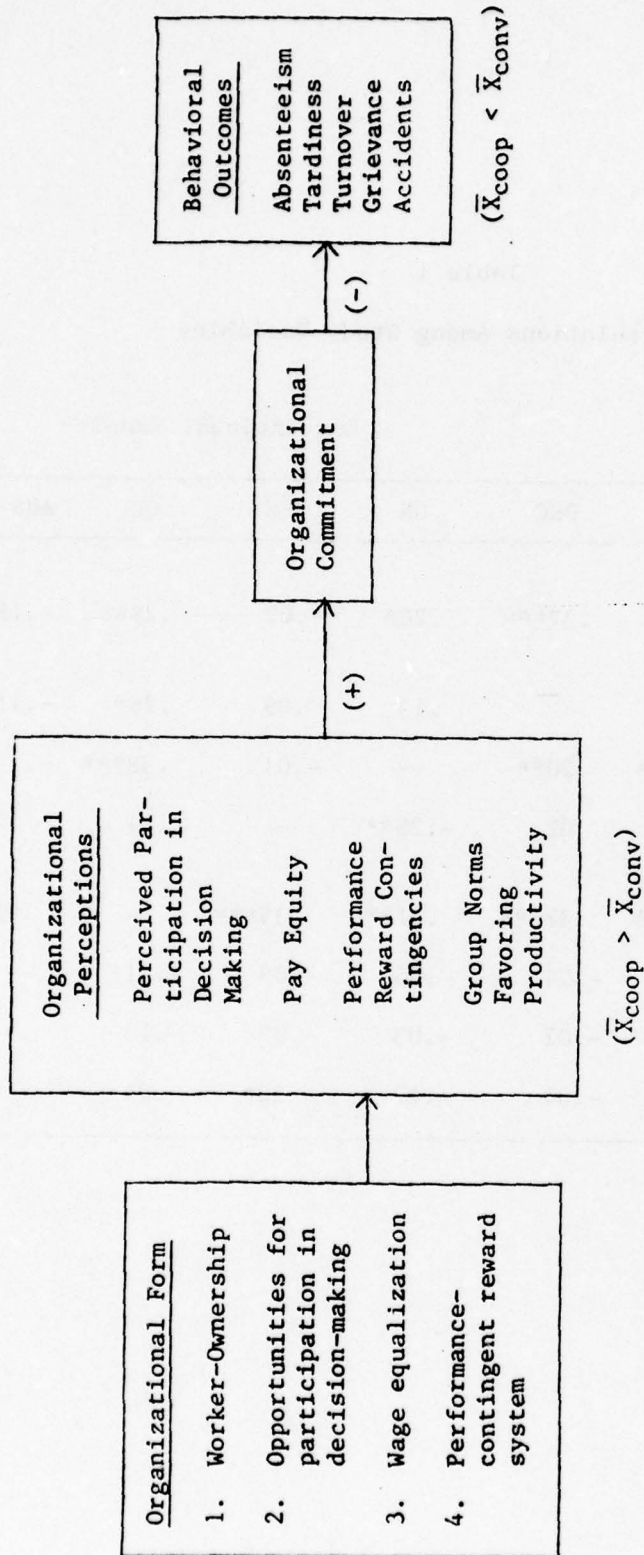


Figure 1. Theoretical Model Showing Expected Relationships Among Variables

Table 1
Intercorrelations Among Study Variables

		Conventional Sample							
Variables		PDM	PRC	GN	PE	OC	ABS	TDY	ACC
Cooperative Sample	Participation in decision-making (PDM)	--	.37***	.26*	-.02	.28**	-.18	-.01	.01
	Performance-reward contingencies (PRC)	.35**	--	.13	.09	.26*	-.15	-.02	-.14
	Group norms (GN)	.48***	.30**	--	-.01	.38***	-.13	-.12	-.03
	Pay equity (PE)	-.25*	.02	-.28**	--	.11	-.14	-.03	-.01
	Organizational commitment (OC)	.40***	.32***	.31**	.38***	--	.02	-.03	.00
	Absenteeism (ABS)	-.04	-.04	-.05	-.09	-.21*	--	.09	.20
	Tardiness (TDY)	.18	-.02	-.03	-.09	-.13	.54***	--	.11
	Accidents (ACC)	.17	-.04	.12	-.20*	.04	.20*	-.01	--

* $p < .05$, one-tailed test

** $p < .01$, one-tailed test

*** $p < .001$, one-tailed test

Table 2
Mean Responses on Antecedent Variables
and Results of Multivariate Analysis of Variance

Variables	Cooperative			Conventional			T
	Mean	s.d	n	Mean	s.d	n	
Participation in decision-making	2.30	.80	68	1.88	.59	68	3.31*
Pay equity	3.69	.56	67	3.33	.67	66	3.40*
Performance-reward contingencies	4.84	1.46	68	2.90	1.58	68	7.15***
Group norms	4.39	1.42	68	3.88	1.63	68	1.82

Results of Multivariate Analysis of Variance:

Wilks Lambda = .67 $F^4_{126} = 14.89^{***}$

$R^2 = .33$

*Hotelling's T, one-tailed, $p < .05$ (joint probability) ≥ 2.85

**Hotelling's T, one-tailed, $p < .01$ (joint probability) ≥ 3.56

***Hotelling's T, one-tailed, $p < .001$ (joint probability) ≥ 4.31

Table 3
Regression of Organizational Commitment on Independent Variables

Independent Variable	Cooperative (n = 64)			Conventional (n = 65)		
	r	Beta	t	r	Beta	t
Marital status	.23*	.14	1.51	.32**	.27	2.40**
Rural-urban	-.11	-.14	-1.48	-.23*	-.20	-1.76*
Participation in decision-making	.40***	.36	3.25***	.28*	.20	1.70*
Pay equity	.38***	.54	5.52***	.11	.18	1.60
Performance-reward contingencies	.32**	.08	.82	.26*	.04	.35
Group norms	.31**	.25	2.22*	.38***	.30	2.62**
<hr/>						
PDM + PRC + GN + PE over and above MS + RU	$\Delta R^2 = .45***$			$\Delta R^2 = .22***$		
Summary Statistics	$R^2 = .71***$ $R = .51$			$R^2 = .57***$ $R = .33$		
Cross Validation	$R_c = .40***$ $R_c^2 = .16$			$R_c = .58***$ $R_c^2 = .34$		

*p < .05
**p < .01
***p < .001

(t-tests, one-tailed)

Table 4
Correlations Between Commitment and Outcome Variables

Variable	Cooperative	Conventional
Absenteeism	-.21*	.02
Tardiness	-.13	-.03
Accidents	.04	.00

*p < .05

Table 5
Attitudinal and Behavioral Outcomes and Organizational Form

Variable	Cooperative			Conventional			t
	Mean	s.d.	n	Mean	s.d.	n	
Organizational Commitment	5.30	.82 ^a	67	4.80	1.06	67	3.05**
Absenteeism	5.71	5.53 ^a	67	2.24	2.53	62	4.52***
Tardiness	2.14	3.04 ^a	67	.15	.41	62	5.12***
Accidents	.50	.83	68	.58	.92	62	.54

^aSignificant difference ($p < .05$) in variances. Pooled variance estimate used for test of differences in mean.

** $p < .01$, t-test, one tailed

*** $p < .001$, t-test, one tailed

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ONR Branch Office
Bldg. 114, Section D
666 Summer St.
Boston, Massachusetts 02210

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Pasadena, California 91106

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Pasadena, California 91106

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Georgia Institute of Technology
Atlanta, Georgia 30332

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Institute for Social Research
P.O. Box 1248
University of Michigan
Ann Arbor, Michigan 48106

Dr. Joseph V. Brady
The Johns Hopkins University
School of Medicine
Division of Behavioral Biology
Baltimore, Maryland 21205

Dr. Norman G. Dinges
The Institute of Behavioral Sciences
250 Ward Avenue - Suite 226
Honolulu, Hawaii 96814

Dr. John P. French, Jr.
Institute for Social Research
University of Michigan
Ann Arbor, Michigan 48106

Dr. Paul S. Goodman
Graduate School of Industrial
Administration
Carnegie-Mellon University
Pittsburgh, Pennsylvania 15213

Dr. J. Richard Hackman
School of Organization and Management
Yale University
56 Hillhouse Avenue
New Haven, Connecticut 06520

Dr. Asa G. Hilliard, Jr.
The Urban Institute for
Human Services, Inc.
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San Francisco, California 94115

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University of Illinois
Champaign, Illinois 61820

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Department of Psychology
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Psychology Department
National Naval Medical Center
Bethesda, Maryland 20014

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Commanding Officer
Navy Personnel R&D Center
San Diego, California 92152

Dr. Myron M. Zajkowski
Senior Scientist
Naval Training Analysis and
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Other

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Purdue University
West Lafayette, Indiana 47907

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McBer and Company
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